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The Agriculture of
CEYLON

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FOREIGN AGRICULTURAL SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

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THE AGRICULTURE OF CEYLON

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SUMMARY

Ceylon, a member of the British Commonwealth of Nations, is an island republic off the coast of South Asia. The economy of the island is based on agriculture, which provides employment in one form or another for almost all the population and earns over 90 percent of the export revenues.

Tea, rubber, and coconuts are the main export items and, along with rice, constitute the bulk of the agricultural production. Only one-half of the food supply is raised in Ceylon and the balance must be imported.

Ceylon is important to the United States as a source of tea and rubber, but of only minor importance as a market for agricultural commodities.

NATURAL ENVIRONMENT

Ceylon lies in the Indian Ocean off the southeast coast of India between 5 degrees N. and 10 degrees N. latitude. It is approximately the size of the state of West Virginia, comprising an area of 25,000 square miles. The greatest length of the island from north to south is 270 miles, and the greatest width from east to west is 140 miles.

Topography

The principal feature of Ceylon's topography is a mountain area, commonly called the Hill Country, in the south central part of the island. The average elevation of this area is 3,000-7,000 feet, with the highest peak reaching 8,281 feet. Surrounding it is an upland area ranging between 1,000-3,000 feet. The rest of the island is a coastal plain, quite broad to the north, but narrow to the east and west and very restricted to the south. The rivers start in the Hill Country and flow in a radial pattern outward to the ocean. Because of limited watersheds, most of the rivers are small and in the Dry Zone cannot be used for irrigation without water storage facilities.

The commercial tea and rubber areas are located in the Hill Country and in the immediate surrounding upland regions. Rice can be grown on this sloping land only where fields have been terraced. Coconuts and much of the rice are cultivated on the coastal plains, most of which are traversed by long narrow ridges that effectively seal off each river valley from its neighbor. These geological formations preclude any integrated irrigation plan for this part of the country.

Climate

Ceylon's proximity to the Equator dictates a tropical climate and its location in relation to the monsoon winds largely determines its pattern of rainfall.

The heaviest rains occur during the southwest monsoon from May through September and the northeast monsoon from December through February. Convectional rains caused by the difference of temperatures between sea and land occur during the transitional periods between the monsoons. Cyclonic or depressional rainfall occurs mainly from October through December and at times brings heavy and widespread precipitation to the country.

Ceylon is divided into two distinct areas, based on differences in the amount and pattern of rainfall. The Wet Zone or southwest portion of the country, with an average precipitation of 113 inches, has two peak periods of rainfall corresponding with the monsoons. The remainder of the island, called the Dry Zone, with an average precipitation of 64 inches, has only one period of rainfall. The Dry Zone has 3 months - June, July, and August - of drought, and production of annual crops without irrigation during this period is almost impossible.

The annual mean temperature of Ceylon is relatively high. Coastal area weather stations have average annual readings between 80° F. to 82° F., with little seasonal variation. In the hill country there is a close relationship between elevation and temperature. Kandy, with an elevation of 1,600 feet, has an annual mean temperature of 77° F.; Diyatalawa, at 4,100 feet, has a mean temperature of 68°; and at Nuwara Eliya, 6,200 feet, the mean is less than 60°. Temperatures low enough to cause frost or freezing are very infrequent in Ceylon and are reported only at the highest elevations.

Soils

Ceylon lies within the broad zone of latosolic soils, which circles the earth at the Equator. Latosols occur on four-fifths of the area of the island. Other soils that are found include ground-water laterite, terra rossa, alluvial and regosol groups.

The latosols in Ceylon are deeply weathered and strongly leached; as a result they are low in plant nutrients and organic matter. They have physical properties favorable for tillage and plant growth, but modern scientific management is needed for sustained crop production.

The ground-water laterite soils occur mainly in the southwestern part of Ceylon, where they are closely associated with the latosols. The profiles of these soils are marked by laterite layers, known as cabook. These layers interfere with the penetration of roots and water, and since these soils are also weathered and low in plant nutrients, they are very poor soils for crop production. The laterite layers or cabook are quarried into bricks for use as building material.

The terra rossa soils along the northwest coast have less favorable physical properties and are less easily penetrated by water or roots than the latosols. However, they are more naturally fertile as they commonly were formed from limestone rock. They occur under the lowest rainfall of the island and need irrigation for successful crop production except during the northeast monsoon.

The alluvial soils and regosols are widely distributed around the coastline of Ceylon. Alluvial soils occur along nearly every stream. Since they are used for paddy rice, they produce much more food in proportion to total acreage than do other soil groups in Ceylon.

The regosols, on the other hand, are of little agricultural importance. They consist of sands along the east and west coasts, which are low in plant nutrients and will hold very little water.

POPULATION

Ceylon's population, as of 1957, was estimated at about 9,100,000, with the rate of population growth placed at 2 1/2 to 3 percent per year. Two main nationality groups are found in Ceylon: the native Ceylon Sinhalese and the Tamils who came to Ceylon from southern India. The Sinhalese make up almost 70 percent of total population while the Tamils have over 20 percent. Numerous communal disturbances between these two groups have occurred recently, largely the result of action by the present government to make Sinhalese the national language of the country. The strong feelings aroused have hindered the country's development plans.

AGRICULTURAL PATTERNS, PRACTICES, AND ORGANIZATIONS

Land Use

The total land area of Ceylon is 16,163,000 acres. Land suitable for agriculture amounts to about 6,663,000 acres, or 41 percent of total land area. However, only 3,638,000 acres or 22.5 percent was under cultivation in 1954, and most of the remaining land suitable for agriculture is in the Dry Zone and awaits development.

In 1954, land use in Ceylon was as follows:

	Acres	Percent
Coconut	1,070,000	(6.6)
Paddy	971,546	(6.0)
Rubber	659,209	(4.1)
Tea	575,770	(3.6)
Other crops	361,475	(2.2)
Total cultivated	3,638,000	22.5
Roads, streams, tanks, towns, and villages	1,250,000	7.7
Forest reserves	3,500,000	21.7
Rocky and steep land and land over 5,000 feet	4,750,000	29.4
Balance available for agricultural development	3,025,000	18.7
Total area	16,163,000	100.0

A much higher proportion of the land in the Wet Zone is used for agriculture than in the Dry Zone, in spite of the fact that a large part of the Wet Zone is mountainous. The Wet Zone contains 30 percent of the total area and 82 percent of land under cultivation in Ceylon. In the Dry Zone the long periods of drouth and the lack of irrigation water limit the area used for agriculture. Cultivation is confined to areas near irrigation reservoirs or wells dug in the underlying limestone formations in the Jaffna peninsula.

Only 6 percent of the total area of the Dry Zone was cultivated in 1953, and although there has been an increase in the area cultivated in recent years, the change has been relatively small.

Tea is grown on most of the cultivable land in the Wet Zone above 2,000 feet; rubber production is characteristic at elevations under 1,000 feet; and coconuts are commonly found from sea level to 1,000 feet. Rice and other food crops are grown along streams and valleys near villages.

Crop production in the Dry Zone is relatively limited as most of the area is still covered by forest or scrub jungle. Rice is the most important crop in the region and most of it is grown under irrigation. Village gardens provide an important source of food for the peasants of the area and are usually found close to the villages and towns.

Chena, or shifting cultivation in Ceylon, is practiced by peasants who also have permanent cultivation in their rice fields and village gardens. Secondary forest is cut and burned and then planted at the beginning of the wet season to a variety of food crops such as corn, kurakkan, cassava, pumpkins, tomatoes, chillies, and gingelly. A chena plot is cultivated for 2 or 3 years until weeds and decreased fertility cause it to be abandoned. Periods between clearing an area for chena have been 15 to 20 years, but recently because of population pressures this has been lowered in some cases to 10 years.

Land Tenure

Ceylon's agriculture is composed of a combination of plantation and peasant types of cultivation. Plantation agriculture was started by Europeans to produce crops for export, while the peasant agriculture has been devoted to the production of subsistence crops. The plantations occupy slightly more than half the cultivated area of the Wet Zone, but are virtually nonexistent in the Dry Zone. They range in size from 20 acres to more than 3,000 acres, averaging in 1946 approximately 145 acres.

Three types of plantation ownership are found in Ceylon. In 1951, about 65 percent of the plantations were owned by individuals, 21 percent by partnerships, and 13 percent by corporations. There was a wide range in average size of plantations in the different ownership categories, with the smaller plantations concentrated in the hands of individual owners and partnerships and the larger ones held principally by corporations. Most of these corporations are foreign-owned, mainly by British interests, but the importance of foreign ownership is decreasing.

Land ownership patterns and land tenure in peasant agriculture are rather complex. As the pressure of population has increased, land holdings have repeatedly been subdivided until many of the remaining plots are so small as to make cultivation inefficient. There are many farmers who own a number of scattered parcels of land but whose total holdings are less than 2½ acres of land each, the average size of peasant farms in the 1952 census. In general, the fragmentation of holdings has occurred to a greater degree in the more thickly populated Wet Zone than in the Dry Zone.

For many years an individual's social position in Ceylon has been associated with land ownership, especially of rice paddy land. This has been the main cause of fragmentation of farms and of joint ownership of small parcels of land when further fragmentation was impossible.

Although many peasants have lost title to their land holdings as a result of indebtedness, the majority of the peasant land holdings are still cultivated by owners. In 1951, 58 percent of the area of the peasant land holdings were operated by the owners, 18 percent by joint owners, 6 percent by share tenants and 9 percent under lease arrangement.

Under the system of joint-ownership, two or more parties own a plot of land jointly and each co-owner cultivates the plot for a year. Share tenants pay a share of the crop (usually 50 percent) to the owner. However, the percentage is higher when the landowner furnishes some of the production supplies or financial assistance. Although land ownership in Ceylon carries with it social status and prestige, there are many rural families in Ceylon who find themselves with no land at all and are reduced to the role of share tenants or laborers.

A sample survey made in 1946 showed nearly one-fourth of the agricultural families in Ceylon were not land owners. Since that time, the Government of Ceylon has started various programs designed to put land into the hands of the landless. The bulk of the uncultivated land in the Dry Zone is the property of the government, and it is on these lands that irrigation and colonization schemes have been attempted over the past 20 years. At the end of 1953, 118,000 acres of land had been distributed to 16,532 families. This was mostly on a protected tenure basis, whereby a settler is given a permit at first, and if he erects or maintains a dwelling, builds fences, lives on the land, and makes an annual payment, he is then given a grant to the land. The grants usually contain conditions which insure the land will be cultivated, that it will not be leased, mortgaged or sold, and that the title of the land passes to one successor only.

Production Practices

Wide differences in the efficiency of farming, as reflected in cultural practices, are found in Ceylon. In general, the plantations are much more efficiently operated than the peasant farms, while in both groups the larger units tend to be more efficient than the smaller ones.

Double-cropping. -- In the areas which have two peak periods of rainfall each year, double-cropping of the rice lands is very common. In 1954-55, about 40 percent of the rice land was double-cropped, but this percentage was much higher in the districts of the Wet Zone and much lower in a number of Dry Zone districts. Crop rotation, as practiced in the United States, is not found in Ceylon; in most instances, when rice land is not planted to rice it remains fallow.

Interplanting. -- Interplanting of crops is commonly practiced in Ceylon, particularly in village gardens and in chena, where food crops including vegetables, pulses, certain grains, chillies, and root crops are planted under such tree crops as coconuts, jak, bread-fruit, arecanut, and bananas. Growing more than one crop in a field each year reduces the risk of complete crop failure in any one season.

Some sort of canopy is normally used on tea plantations to provide shade for the tea bushes. Several fruit trees have been used for this purpose as well as trees whose foliage is used for mulching purposes. In certain areas, growers are encouraged to plant cacao under rubber trees and to plant food crops or pasture cattle in coconut groves.

Fertilization. -- The use of fertilizer is a common practice on plantation crops, but only limited amounts are used on rice and other peasant crops. Data indicate that almost all of the tea area, about 15 percent of the coconut area, and some of the larger rubber plantations are fertilized. Subsidies by the government for fertilizer used on rice have encouraged its use on approximately one-third of the rice area. Ceylon has no significant deposits of fertilizer materials so most of the commercial fertilizer must be imported.

Irrigation. -- Irrigation, which is used principally for rice production in Ceylon, is usually done by gravity flow through a system of channels and irrigation ditches. In the Wet Zone water for irrigation comes from the streams and little or no storage facilities are required. However, in the Dry Zone many of the rivers (except those arising in the Wet Zone) have been known to dry up in periods of extended drouth. In this area construction of tanks to store water has been practiced for many centuries. Under foreign rule many irrigation reservoirs were abandoned and by the end of the nineteenth century, most of them were in the state of ruin. In recent years, many of these have been restored, though there are still large numbers that are unused. In addition to restored tanks, several new reservoirs have been constructed to open up new lands and establish colonization schemes. According to the Irrigation Department, there were a total of 712,000 acres under irrigation at the end of 1956.

Fungicides and Insecticides. -- Ceylon has no significant chemical industry so all fungicides and insecticides must be imported. Effective control measures have been found for most of the serious plant diseases and insects; however, they aren't always used. The blister blight fungus diseases of tea, the oidium fungus disease of rubber, the Helopeltis bug of cacao, paddy blast, brown spot, the paddy bug, the pentatomid bug, and the paddy swarming caterpillar of rice can all be controlled or substantially reduced by timely applications of the appropriate fungicide or insecticide.

Seed and Plant Improvement. -- Ceylon has research institutes or stations for all important crops and an active program of plant breeding is under way. High-yielding strains or improved varieties of tea, rubber, coconuts, rice, and a number of minor crops have been developed and are being made available to growers.

Marketing and Transportation

Ceylon has a reasonably good basic network of inland transportation. The population, agricultural production, commerce, and industry are all centered in the southwestern part of the country or Wet Zone. Colombo, the principal seaport and capital of the country, is located in this area and nearly all of the export-import trade is handled through this port.

The Ceylon Government Railway system has a total length of 900 miles, most of which is in the low and comparatively flat country. Growing competition from automotive transport over the years and increased operating costs have tended to make the railway inefficient. Although the main agricultural areas are served by the railway, many locations in the Dry Zone are some distance from the lines.

There are over 30,000 miles of road of all categories in the country. Although freight rates are lower by rail than by truck, there is a growing trend for shippers to use truck transportation because of greater convenience and less delay in transit.

Market facilities are well developed for the important commercial crops, with auctions being held regularly in Colombo for tea, rubber, copra, and cacao. Facilities for rice and other food crops and for livestock products are much less adequate. Cooperative Agricultural Production and Sales Societies serve as collection centers for rice and other products that are eligible for price supports under the Guaranteed Price Scheme. However, in 1956 it was estimated that only 20 percent of the cultivator families were members of these societies, indicating that a high proportion of the peasant producers were not taking advantage of the marketing facilities and guaranteed prices provided. Instead, much of the production moves through middle men, mainly because producers become indebted to traders and landlords and must deliver their produce to satisfy their indebtedness.

While the Government of Ceylon is taking steps to improve transportation and marketing facilities, probably the greatest need is for the development of ports. In 1956 almost 97 percent of the imports and 92 percent of the exports of the Island moved through the port of Colombo. Facilities sometimes remain congested for months, with extended delays in shipments moving in both directions. While action to develop facilities at Galle is being taken, storage at portside is still inadequate and little trade has been diverted to this port. Trincomalee, on the east coast, has an excellent natural harbor, but the city is so far removed from producing centers as well as the center of population that little trade is expected through this port in the next few years.

Agricultural Organizations

There are various influential organizations in Ceylon which are interested in different phases of agriculture. The Planters Association of Ceylon is a representative body of the chief commercial planting interests of the country. The Low Country Products Association has as its objective the promotion of interest in coconuts, cinnamon, citronella, arecanut, rice, spices, and other lowland-produced crops. It publishes an annual report containing information on Ceylon's main export crops and a daily list of prices of Ceylon produce in the local press.

Most of the plantation workers belong to labor organizations but since the government regulates the various phases of the workers' lives on estates, including minumum wages, housing, medical benefits, and education, little need has arisen in Ceylon's agriculture for the growth of labor unions.

The largest number of organizations related to agriculture are cooperatives, of which the three most important types are credit, agricultural marketing, and consumer societies. In 1956, some 10,300 cooperative societies of all types were operating in Ceylon.

There are various government ministries which have one or more departments whose functions relate to some phase of agriculture. The Ministry of Agriculture and Food administers programs in agricultural research, extension, education, marketing and cooperative organizations; animal husbandry and veterinary services; food production; small irrigation development; and control, distribution and rationing of food. Departments under this Ministry include Agriculture, Agrarian Services, Food Commissioner, Tea Control, Rubber Control, Marketing, Cooperative Development, and Coconut Rehabilitation.

The Ministry of Land and Land Development, the Ministry of Home Affairs, the Ministry of Commerce and Trade, and the Ministry of Education all have programs intended to improve agriculture and trade in agricultural products.

Actions to Increase Agricultural Production

A National Planning Council was established to advise the Ceylon Cabinet on the planning of all phases of the economy. The Council has recommended that the development of the economy should include the rehabilitation of the agricultural export section, the maximum utilization of all productive and cultivable land, the modernization of techniques to improve productivity in peasant agriculture, and the industrialization of the predominantly agricultural economy.

The rehabilitation of the export crops section has started. Under subsidized programs, low-yielding and uneconomic rubber and coconut areas are being replanted with improved varieties. A similar program for tea is expected to be in operation in the near future.

Under the Guaranteed Price Scheme rice producers have been paid prices almost double the Southeast Asia market price for rice to induce them to adopt improved practices and increase output. Guaranteed prices are also available for several minor food crops.

The Paddy Lands Act, a land reform law enacted early in 1958, seriously limits the authority of the landlord and places a ceiling on the rent he receives. Tenants are assured of being able to cultivate a piece of land indefinitely if they are competent operators. It is too early to tell whether the law accomplishes the objective of increasing rice production, since it is now being implemented in only two provinces and it may be several years before it is applied in all areas.

A pilot crop insurance scheme has been started to give rice farmers protection against decreased production caused by natural hazards. It provides both the incentives for greater crop production and guarantee of income to the producer.

The Dry Zone offers many possibilities for increased crop production if irrigation can be made available. In 1957, there were 561,000 acres under irrigation out of a possible 1,530,000 acres, leaving a balance of 969,000 acres to be developed. The Irrigation Department is bringing dry land under irrigation each year through restoration of abandoned reservoirs, expansion and improvement of facilities now in use for irrigation, and by building new reservoirs.

The Gal Oya Valley Project is an example of one of the larger-scale schemes initiated by the government to develop the Dry Zone. This multipurpose scheme provides irrigation facilities, hydro-electric power, flood control, and industrial development possibilities to help solve the problem of unemployment.

With the development of irrigation facilities, the government is resettling peasant families from the thickly populated part of the island to suitable areas in the Dry Zone. The settlers are provided with cleared land and homes as well as public buildings, roads, and communal wells. Each settler receives about 3 acres of irrigated land and between 2 to 5 acres of high land.

Ceylon has received foreign aid for agriculture from United Nations' organizations, Colombo Plan countries, and the United States. Recently, Communist China and the USSR have agreed to assist in rehabilitation of the rubber industry and in land clearance.

Agricultural Credit

Ceylon has a fairly widespread system of cooperatives serving agriculture and providing loans mostly for crop production. However, the Commissioner of Cooperative Development in 1956 estimated that not more than 5 percent of the country's credit needs were being met by credit cooperatives for the following reasons: (1) the Cooperatives are not always within convenient distances; (2) loans are not made to not-so-credit-worthy persons; and (3) no real effort has been made by the committees to increase membership. Most of the credit is still supplied by the village shopkeeper and money lenders, usually at exhorbitant rates of interest. Many cultivators find themselves almost constantly indebted to these village lenders and are forced to deliver most of their harvest to the lender, at prices set by the lender, to satisfy their indebtedness.

Taxation

Commercial agricultural crops account for a large part of the government's revenue each year, principally in the form of export duties and income and profit taxes. Producers of the other agricultural crops pay little tax and actually are subsidized by various government programs.

Education, Research, and Extension

The literacy rate in Ceylon is high compared with other Asian countries, and at the present time three-quarters of the children of school age are in schools. But emphasis is placed on academic attainment while practical or technical training in neglected. The University of Ceylon is the only college-level institution in the country offering an agricultural curriculum, although the Department of Agriculture has the responsibility for operating 14 farm schools designed to train extension personnel and independent farmers.

In Ceylon considerable attention has been paid to research in the agricultural field. A total of 58 government farms and agricultural research stations were being operated by the Department of Agriculture in 1956. Three commodity research centers for tea, rubber, and coconut products, which are financed by export taxes, are undertaking special investigations and have made valuable contributions to the respective industries. The research program staffs and funds are comparatively small, and in recent years a number of the British who have held research positions have resigned or been replaced by Ceylonese.

Ceylon has several government agencies and a fairly large staff of agricultural extension workers and other government personnel to help farmers and agricultural societies increase food production and improve farm living conditions. Yet training facilities are not adequate enough to provide sufficient guidance to extension personnel in fulfilling their job of educating the farm population.

AGRICULTURAL PRODUCTION

Commercial Crops

Tea, rubber, and coconut products are the main export crops of Ceylon, although several other commercial crops are also grown, including cacao, cinnamon, citronella, arecanuts, pepper, tobacco, and papain.

Table 1.--Principal commercial crops: Acreage and production, Ceylon, 1954-56

Crop	Area			Production		
	1954	1955	1956	1954	1955	1956
	1,000 acres	1,000 acres	1,000 acres	1,000 m. t.	1,000 m. t.	1,000 m. t.
Tea	575.5	566.1	569.5	166.4	172.4	170.4
Rubber	659.3	661.0	659.0	95.4	95.3	96.9
Coconuts [1]	1,071.0	1,071.0	1,071.0	436.2	510.0	484.1
Arecanuts	100.0	100.0	100.0	[2] 4.9	[2] 6.4	[2] 3.9
Cinnamon	36.1	30.0	25.0	[2] 2.7	[2] 2.1	[2] 2.3
Citronella	35.0	35.0	35.0	[2] 0.6	[2] 0.7	[2] 0.6
Pepper	8.4	9.4	8.9	4.1	4.7	5.7
Cacao	25.0	25.0	25.0	[2] 3.0	[2] 2.5	[2] 2.9
Tobacco	15.6	14.1	15.1	3.0	3.9	3.9

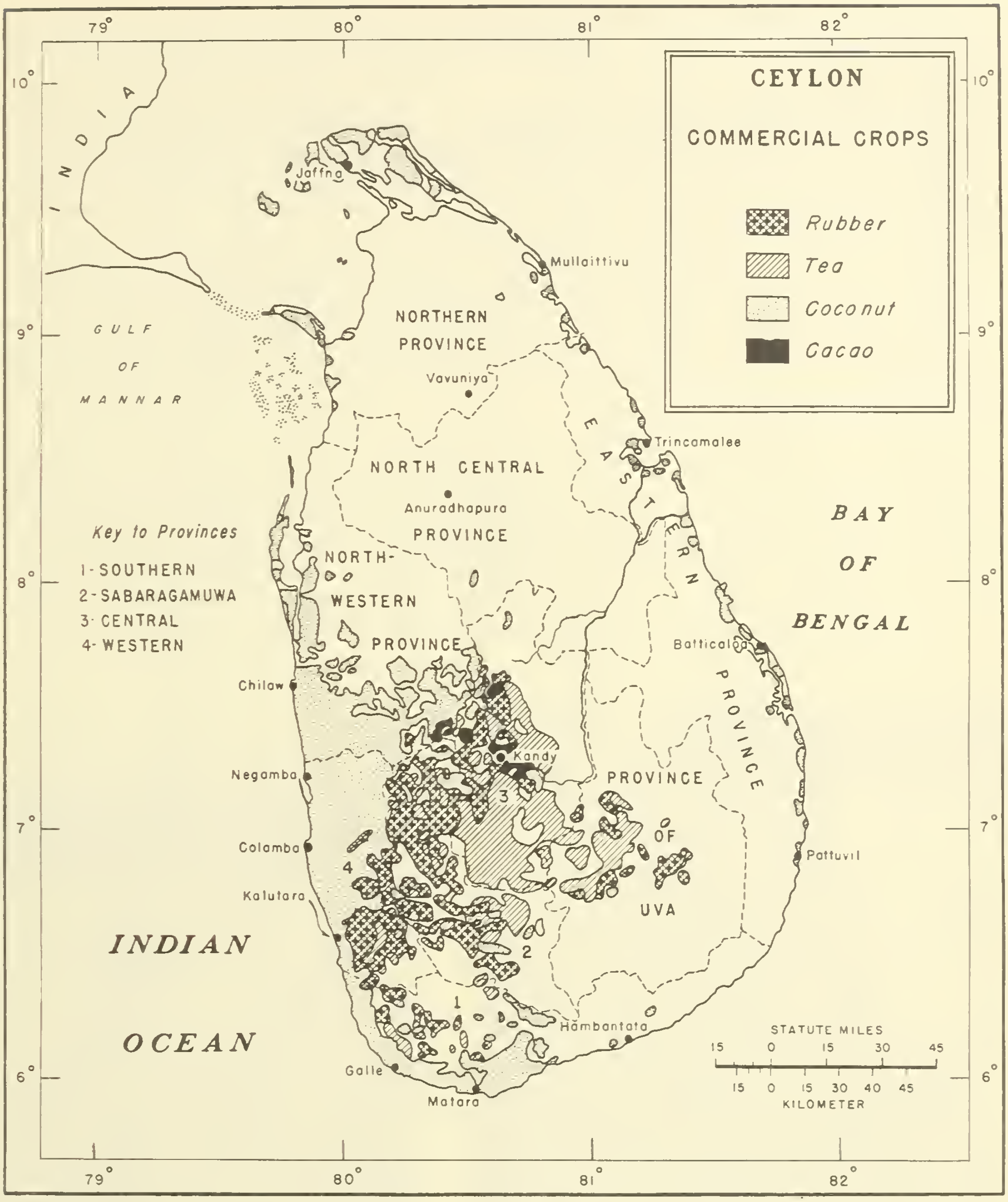
[1] In copra equivalent.

[2] Figures include only those quantities that were exported.

Tea. -- Tea is and has been for the last half-century the backbone of Ceylon's economy. In recent years tea has accounted for about 60 percent of the value of exports and has been the country's principal source of dollar earnings. Further, Ceylon is important in the world tea market, being second only to India in tea area, production, and exports. The country accounts for about one-third of the tea moving in international trade.

Tea was first planted commercially in Ceylon about 1867, but it attained very little importance until late in the 19th Century. In 1956 the tea area was 569,460 acres, most of it in plantations.

The tea plant is rather exacting in its requirements from the standpoint of climate, soils, and elevation. An evenly distributed rainfall of 80 to 120 inches, a well-drained acid soil, and a hill slope is required for the best quality tea. These conditions are found only in the mountainous area in the south central part of Ceylon in the Wet Zone. Growth is faster at lower elevations, but other things, such as increased pest and disease incidence, tend to make yields and quality lower than at the higher elevations. Tea grown at elevations below 2,000 feet is strong and has little distinctive flavor; choice flavor is produced by tea grown at medium elevations between 2,000 and 4,000 feet; and very fine flavor is characteristic of the tea grown



U.S. DEPARTMENT OF AGRICULTURE NEG. 1793 FOREIGN AGRICULTURAL SERVICE at the higher elevations above 4,000 feet. In 1956, 41 percent of the tea production was "high grown," 37 percent was "medium grown," and 22 percent was "low grown."

Tea requires intensive labor, and in Ceylon more than 600,000 workers are employed in its production. Probably around 12 percent of Ceylon's population depends directly on tea for its livelihood and another 6 percent is indirectly supported by the industry. Plucking, which is done by hand and requires a considerable amount of skill, takes the most labor. About 65 percent of the the plantation labor force consists of Tamils.

In 1955, average minimum daily wages ranged from rupees 2.35 ($0.49 U.S.) for males over 16 to rupees 1.56 ($0.33 U.S.) for children. Legislation and regulations cover most phases of estate workers' lives including wages, medical treatment, housing, and education. Although 25 percent of tea plantation workers belong to labor unions, strikes have not been a serious problem to the industry.

Rubber. -- Although rubber was introduced into Ceylon before any other country in the Far East, it has long been outranked by Indonesia and Malaya as a natural rubber producer. Ceylon's normal annual production represents only 5 percent of the world's natural rubber output. Nevertheless, Ceylon's rubber industry is second only to tea in importance to the export economy of the island. Rubber exports account for about 18 percent of domestic exports, and the rubber industry provides employment for about 500,000 people.

Rubber and tea are two of Ceylon's main foreign exchange earners.

The beginning of rubber in Ceylon dates back to 1876 when seedlings were first brought to Ceylon. As in the case of tea, rubber is somewhat exacting in its soil and climatic requirements. It needs more than 80 inches of rainfall annually and in Ceylon does best at elevations below 800 feet. The moisture requirement limits rubber growing to the Wet Zone. Originally a plantation enterprise, rubber is now produced both on plantations and on peasant-owned lands. The rubber area in 1956 amounted to 660,900 acres. The ownership of rubber lands historically had been in the hands of Europeans (mostly British) but at the present time most of the area is owned by the Ceylonese.

Ceylon's rubber production has shown wide fluctuations but has tended to bear a direct relationship to price changes. As demand and prices for rubber rise, those areas which are not economically practical at lower prices are brought into production and output increases. Ceylon's average rubber output during the 1935-39 period when prices were low was 54,500 tons. During World War II when other sources of natural rubber were not available to the Allies, rubber production rose to 100,000 tons. In 1956, rubber production stood at 97,000 tons.

Rubber trees require about 6 to 7 years to come into production, and yields begin to decline when trees have reached an age of 30 to 35 years. Age composition of rubber trees in 1951 indicated that 60 percent of Ceylon's rubber trees were past their economic life, while less than 5 percent of the area was in immature rubber. Since around 3 percent of the area should be replanted each year in order to maintain full production, and at any given time about 18 percent of the area should be immature rubber, it was apparent that replanting was occurring at a far lower rate than necessary to maintain production.

In 1953 a Rubber Replanting Subsidy Act was passed under which subsidies are paid to growers of uneconomic rubber who are willing to replant with high-yielding strains. The program was originally financed by a tax of about 2 cents (U.S.) per pound on rubber exports, but beginning in 1958 it is to be financed by economic assistance provided under terms of the renewed rubber-rice trade agreement with Communist China. Indications are that the replanting program has been successful and that if it is extended beyond the target date of 1960, a high proportion of the rubber area will be in high-yielding strains. This should enable Ceylon to compete with other producing areas as well as with synthetic rubber.

Coconuts. -- In recent years coconut products have supplied about 14 percent of Ceylon's export earnings making coconuts the third ranking export crop. However, the importance of coconut production to the economy of the country cannot be measured in terms of export earnings alone. Coconuts are produced on more of the cultivated area of the country than any other crop. Besides giving employment to a large segment of the population, coconuts provide an important source of food for the country, with 40 percent of total production in recent years being used for domestic consumption.

Coconuts have grown in Ceylon for many centuries, but the systematic cultivation of the tree did not begin until the middle of the last century. Since then the area has been expanded to an estimated 1,071,000 acres at the present time.

Although coconuts are best adapted in areas near the sea coast, they are grown in almost all areas except at the highest elevations. While many plantations produce coconuts, the crop is principally grown on peasant holdings. In addition, many coconut trees are planted in village and town gardens mainly for domestic food production.

The coconut palm begins to bear 7 years after planting, reaches full maturity 15 years after planting, and passes the period of optimum yield at 60 years. According to observations made by the World Bank Mission in 1951, it was estimated that one-third of the total area in coconuts had passed the 60-year mark and that another large proportion was near that age. The Coconut Research Institute began a coconut replanting scheme in 1948 to distribute high-yielding seedlings to growers at subsidized prices.

Coconut production in Ceylon varies considerably from year to year depending on the amount and distribution of rainfall. Annual output has followed a generally upward trend since World War II, reaching a peak in 1955 when production totaled an estimated 2.5 billion nuts or the equivalent of 510,000 metric tons of copra. In 1956 and 1957, production decreased as a result of dry weather.

Coconuts are produced the year around and harvesting is usually done every two or three months. Most of the crop that is not eaten fresh or used for home-made oil is sold as fresh nuts or processed for copra which is sold for export or local oil-milling. Other coconut products include desiccated coconut, coconut oil, copra poonac for animal feed, coconut fiber, and coconut shell charcoal.

Most coconut products are exported from Ceylon through the port of Colombo. The Ceylon Coconut Board operates the Copra Sales Room which maintains an effective control over the quality of exports of copra and coconut oil shipped through Colombo.

Estimates place the number of workers employed in the coconut industry at 250,000. The peasant coconut farmer uses very little hired help as all work is done by family labor. Hired labor is used on the larger coconut plantations but coconut production is much less labor-intensive than either tea or rubber.

Cacao. -- Cacao production in Ceylon has been relatively unimportant but the high prices received for cocoa in recent years have led the Ceylonese to look upon this crop as a possible addition to the export earning capacity of the island and as a means of diversifying the economy.

Cacao grows best in sheltered locations between 500 feet and 2,000 feet, with not less than 60 inches of rainfall and a fairly high uniform temperature. The crop is grown under some form of canopy to reduce light intensity and rate of evaporation. Lately, cacao has been planted under rubber stands, providing a second crop and at the same time protecting the rubber tree against the effects of hot, dry air.

No accurate data on area or production are available. Estimated area in 1956 was 25,000 acres, and production, 3,400 metric tons. Most of the output is exported, principally to the Philippines. Exports since 1951 have ranged from 2,500 tons to 3,000 tons annually.

Cinnamon. -- At one time cinnamon was probably Ceylon's most highly prized export commodity. Although the importance of the crop has declined, Ceylon is still the world's principal producer of cinnamon. The area under cinnamon was estimated to be less than 25,000 acres in 1957.

Cinnamon quills, which consist of the bark from the middle of the shoot, is the most important cinnamon product. Other products include "chips" made from the coarse outer and inner bark, and cinnamon "bark and leaf oils," which are distilled from the chip and quill trimmings and from the leaves.

Citronella. -- This tall, coarse grass is harvested from 35,000 acres and upon distillation yields an aromatic essential oil used mainly in medicines, soaps, cosmetics, and as an insect repellent.

Cardamons. -- Native to Ceylon and India, this spice produces an aromatic seed used for flavoring confectionary and curry and as a medicine. There is a wide market for it in Ceylon and the bulk of the output is consumed locally.

Arecanut. -- The arecanut or betel nut palm is extensively cultivated in Ceylon and elsewhere in Asia for its "nuts" (seeds), which are chewed with betel leaves by a large part of the population. Exports have averaged more than 5,000 tons valued at $1 million per year; however, the bulk of the output is consumed domestically.

Pepper. -- Indigenous to Southern India and Ceylon, pepper is widely grown in the moist lowlands and up to about 2,000 feet elevation. Since it is a climbing plant, it is normally grown with common trees for shade and support.

The plant may bear well for 20 to 25 years, the first yield coming in the third year, but with higher production about the sixth year. Output has been increasing and in 1957 about 5,900 metric tons were produced from 8,900 acres. The bulk of Ceylon's pepper is used locally and exports have averaged only 200-300 tons in recent years.

Tobacco. -- This crop has been grown in Ceylon for many years. Chewing, cigar, cheroot, and cigarette types are produced. In earlier years emphasis was on chewing tobacco, largely for export to India, but present Indian restrictions on this type tobacco and the growth of the local cigarette industry have caused a shift to the cigarette types. Total tobacco production is running at 3,900 metric tons annually, with over 400 tons exported.

Papain. -- As an enzyme used in beverages, medicine and other industrial uses such as a meat tenderizer, papain is obtained from the thin, whitish latex in the unripe fruit of the pawpaw. Data on area and production are not available. Exports of papain in 1953 reached a value of $1.5 million but have declined since then, primarily because of failure to maintain quality standards. The United States has taken more than three-quarters of the exports.

Domestic Food Crops

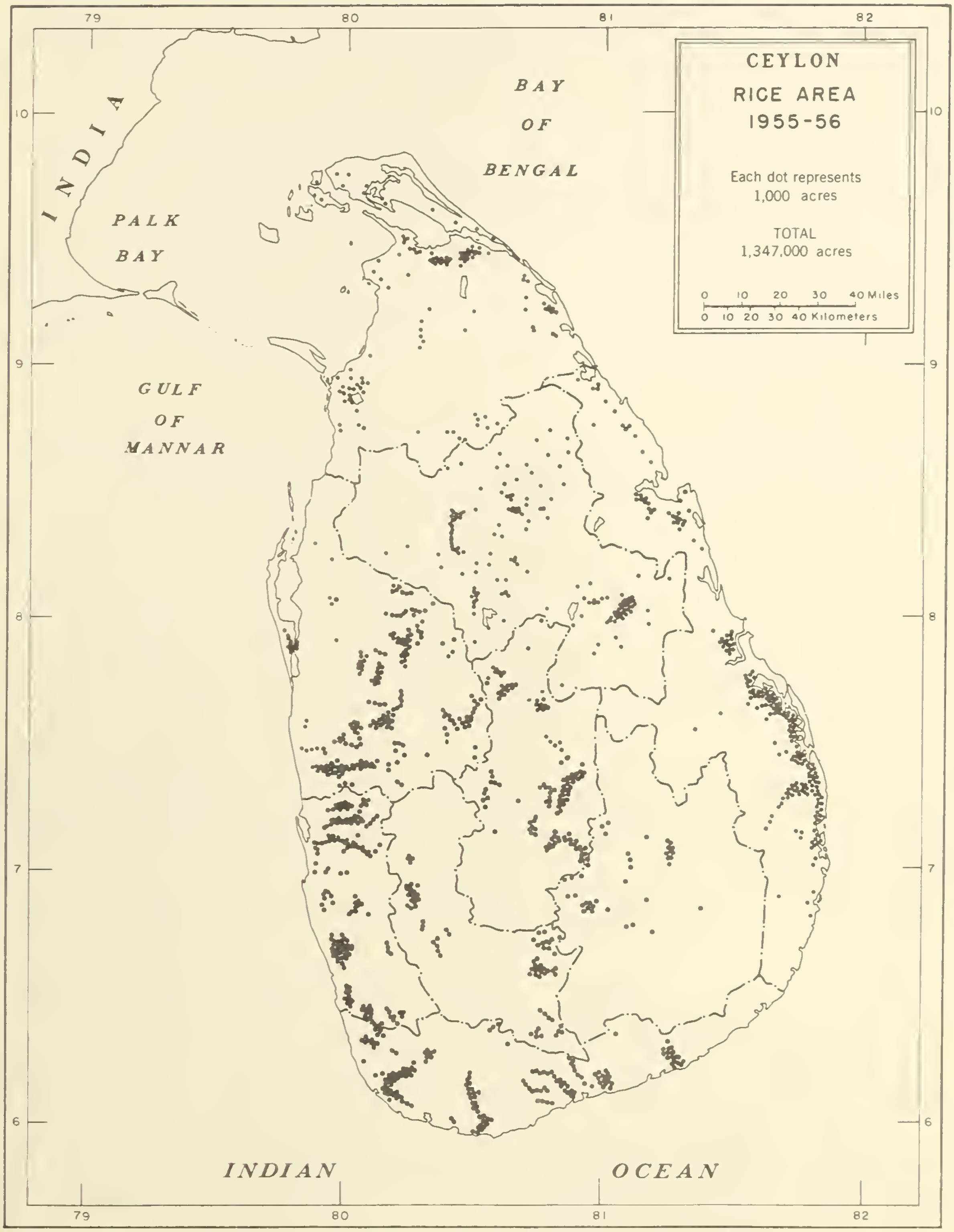
Rice. -- The staple food of the Ceylonese is rice, and since the colonial period it has probably been Ceylon's most important crop grown, with the largest production area. Moreover, though there has been considerable variation from year to year, the area planted in rice has been following a generally upward trend. Rice is grown throughout the island, with every district showing at least 25,000 acres in rice.

There are two main seasons in the cultivation of paddy rice. The "Maha" season is the crop sown from July through November and harvested from February through May. The "Yala" season is the crop sown from February to June and harvested from July through October. However, some rice is grown throughout the year. From 78 to 80 percent of the total area is planted in the Maha season, while 50 percent is planted during the Yala season. For the island, as a whole, between 38 and 40 percent of the rice area has been double-cropped in recent years.

The sources of water used in the irrigation of rice are classified as major schemes, minor schemes, and rainfed areas. Major irrigation schemes are those controlled and maintained by the Department of Irrigation, the minor schemes are small scale projects such as village tanks, and the rainfed areas are those obtaining water by direct rain, seepage, or marshy water. The largest rice area is in the rainfed category.

Ceylon's rice production in the period following World War II was below the prewar level. Area and output have tended to increase since 1951. In 1954-55 they reached a peak of 1,252,000 acres and 695,800 metric tons of rough rice. Production was down slightly in 1955-56, then in 1957 it declined sharply to 589,700 tons because of adverse weather conditions.

Farmers drive their buffaloes home after day's work in rice fields. Rice is the principal food in Ceylon.



U S DEPARTMENT OF AGRICULTURE NEG. 1599-A FOREIGN AGRICULTURAL SERVICE

Ceylon's rice imports have in most years exceeded domestic production, and although the country is making some progress toward its goal of producing a larger share of domestic rice requirements, there appears to be little prospect that self-sufficiency will be attained in the near future.

Rice is produced almost entirely by the peasants in Ceylon. Production methods are generally inefficient and average yields are among the lowest in Asia. The factors contributing to this overall inefficiency in rice production are: (1) inadequate applications of plant nutrients to the soil; (2) the pattern of land tenure under which a large proportion of the cultivators do not own the land they work; (3) shortage of irrigation facilities, especially in the Dry Zone; (4) poor methods of land preparation, cultivation, and other farm practices; and (5) the credit facilities of village shopkeepers and money lenders that result in the rice farmer having little or nothing left at the end of the entire season to show for his labor except his subsistence while producing the crop.

Table 2.--Major Domestic food crops: Area and production, Ceylon, 1953-55

Crop	Harvested area			Production		
	1953-54	1954-55	1955-56	1953-54	1954-55	1955-56
	1,000 acres	1,000 acres	1,000 acres	1,000 m. t.	1,000 m. t.	1,000 m. t.
Grains:						
Rice, rough	1,164.1	1,251.6	1,216.2	582.9	695.8	684.0
Kurakkan	93.9	108.7	88.0	19.6	17.9	11.3
Corn	36.8	35.8	32.6	10.3	8.4	4.7
Root crops:						
Cassava	173.5	199.2	246.9	189.6	260.4	240.2
Sweetpotatoes	42.3	37.6	33.9	37.8	48.5	61.0
Pulses and oilseeds:						
Pulses	10.4	9.2	n.a.	4.2	4.7	5.0
Gingelly	33.6	51.4	44.7	5.0	8.8	7.1
Vegetables:						
Chillies	32.6	32.1	30.6	17.9	18.9	16.1
Onions	11.9	15.6	16.6	22.6	37.2	34.0

Other grains. -- A number of other grains are grown in Ceylon but all are insignificant compared to rice. Kurakkan, or finger millet, has been grown for local consumption for many years and is produced principally in the Dry Zone, without irrigation. The crop is often sown with a variety of other subsistence crops. Yields have varied considerably depending on the amount of rainfall received and are low when compared with other producing countries.

Corn has become a fairly popular crop for village agriculture and for the areas outside the wet regions. It is a rather uncertain crop and yields have generally been low. As in the case of kurakkan, all corn production is consumed locally.

Various other millets and sorghums are produced, but relatively little information is available as to area and production. The output of these minor crops is small but important to the degree that it adds to the food supply of the peasant farmers.

Root Crops. -- Over 5 percent of the planted area in Ceylon is used to grow root crops, chiefly cassava. This is grown as an unirrigated crop in the Dry Zone and on chena in both the Maha and Yala seasons. Most varieties mature in 9 months and may yield, under favorable conditions, 50 tons per acre, but average yields are much lower. Total production has been estimated at 250,000 tons in recent years. The crop takes a heavy toll of the major soil nutrients.

Sweet potatoes are widely grown in home gardens and as a chena crop. Output has been increasing; in 1955-56, it reached over 60,000 tons. Various other root crops are also produced, including yams and the common white potato.

Pulses and Oilseeds. -- Pulses are an important food crop. Both area and production of green gram and cowpeas have tended to increase over the past few years. But production, even in the peak year of 1953-54, was estimated to be less than 5,000 tons, whereas imports in that same year totaled 54,700 tons. Most pulses are grown in the Dry Zone, often in mixtures with other crops in chena.

Gingelly is the only oilseed crop, with the exception of coconuts, that is produced in significant quantity in Ceylon. It is grown largely in chena and as a highland crop in colonization projects. Planted area has increased from 27,000 acres in 1951-52 to 51,400 acres in 1954-55, while production in the same period increased from 3,800 to 8,800 tons. Although the bulk of the crop is crushed for oil for domestic use, small quantities have been exported.

Vegetable Crops. -- A wide variety of vegetables are grown throughout the island in home gardens and chena. Most of the vegetables produced are consumed by the producer, but the Ministry of Food and Agriculture has been encouraging the cultivation of vegetables for market by establishing collection centers to assist cultivators in the sale of their products. No estimates as to total area or production of vegetables are available. Probably more chillies are grown than any other vegetable. Planted area is estimated at 32,000 acres and output at 16,000 to 18,000 tons. Additional quantities are imported, mostly from India.

Large quantities of onions are consumed in Ceylon. Domestic production from 15,600 acres reached 37,000 tons in 1954-55, with imports just about equal to production. Other vegetables produced include gourds, squashes, pumpkins, mustard, okra, horseradish, spinach, kohlrabi, tomatoes, radishes, artichokes, beans, beets, cabbage, carrots, celery, lettuce, parsnips, peas, and turnips.

Fruits and Nuts. -- Many varieties of fruits are produced in Ceylon and form an important part of the daily diet. In the Wet Zone each village garden contains one or more fruit trees. Trees are also grown along roads and fences and used as shade for tea, cacao, and pepper. In the Dry Zone the trees are planted near the village source of irrigation water where soil moisture normally remains adequate even in periods of prolonged drouth.

Bananas or plantains are an important fruit in Ceylon. In recent years, the Ministry of Food and Agriculture has given serious attention to selection and distribution of this fruit and output is increasing.

Pineapples have long been grown on the island, but production has been limited to small areas and gardens. However, the Marketing Department has been purchasing the fruit for canning and production appears to be expanding.

The jak-fruit tree, which produces one of the largest fruits known, is highly favored in Ceylon. The fruit and seeds are widely used in curries, while the tree makes a fine shade tree and also yields excellent timber for furniture and buildings. Other fruits include most of the citrus types, mangoes, breadfruit, guava, and pawpaws.

Because trees are scattered and most of the fruit production is not marketed, no data on area or output are available. Collection centers that were established for vegetable marketing are also used for collecting fruit.

Miscellaneous Crops. -- Several other crops are grown in Ceylon, but have not attained economic importance at the present time. Sugarcane is produced in small quantities, although plans are being implemented to produce more cane to supply the sugar mills on two of the colonization schemes already under way. Tumeric, ginger, cotton, kapok, and sisal are grown in various areas on the island. Coffee, which prior to 1875 had attained great importance only to be wiped out by disease, is produced in small quantities and the bulk of the consumer requirements is imported.

Livestock Production

Religious considerations and a number of livestock diseases have retarded livestock production in Ceylon, and although many of the diseases have responded to control measures, the output of livestock products for food is not an important agricultural enterprise. Buffaloes are kept for use as draft animals in rice cultivation and cattle are used for pulling carts. Very few of the animals are milked and little care is given them when not being worked.

Most of the cattle belong to the Sinhala breed, a small hardy animal poorly adapted for milk or beef production or for draft purposes. Purebred draft and milk bulls have been imported for use in an improvement program for livestock, and some progress is being made even though there is still considerable prejudice among the village people against systematic raising of animals.

Natural pasture grasses in Ceylon are lacking in nutrients and palatability. Research is under way to find suitable grasses and legumes for use in pastures. And in 1951, *Brachiaria brizantha*, locally called Signal grass, has proved adaptible to conditions in Ceylon.

Livestock slaughter is permitted only in licensed slaughter houses, although some illicit slaughter undoubtedly occurs in remote areas. Because of a shortage of buffaloes for rice production and the tendency for the peasant farmer to sell his workstock to pay his debts, the government restricts slaughter of buffaloes for food. The slaughter of cattle, goats, sheep, and pigs has been increasing in recent years.

Milk production in Ceylon has been rather insignificant. Prior to the establishment of a Government Milk Board in 1954, very few cattle and buffaloes were milked. The efforts of the Board are directed toward increasing Ceylon's milk consumption, as well as encouraging milk production. Milk production was estimated at 64,000 tons in 1957, only a fraction of which was marketed. Because most producers have no means of transporting surplus production to market, several collection centers have been started. Cooperative Dairy Societies have been organized and are operating a number of milk pasteurizing plants. Although some progress has been made in increasing milk production, consumption is extremely low, averaging only about 1½ ounces per capita daily.

Table 3.--Livestock: Population and slaughter, Ceylon, 1954-56

	Number			Slaughtered		
	1954	1955	1956	1954	1955	1956
	1,000 head	1,000 head	1,000 head	1,000 head	1,000 head	1,000 head
Cattle	1,277.3	1,432.8	1,450.2	173.8	174.8	174.9
Buffaloes	706.6	794.7	789.4	.2	1.4	2.0
Goats	563.9	491.3	471.3	190.1	193.4	183.2
Sheep	95.0	88.9	65.1	(1/)	(1/)	(1/)
Swine	83.3	43.3	43.2	15.6	13.5	20.3

1/ Included in goat slaughter.

Data on poultry and egg production are not available. Small flocks of chickens are kept by villagers in many parts of the island. The Government is endeavoring to develop the poultry industry by introducing flocks to villages with little or no poultry, by helping to upgrade poultry by gifts of pure-bred stock in villages with established flocks, and by the free exchange of high grade cockerels for the native types. The Marketing Department has initiated an egg collection program, operated through Cooperative Sale Societies.

INTERNATIONAL TRADE

Ceylon has enjoyed a fovorable balance of trade for many years. In only 4 of the past 20 years did it experience a trade deficit. In 1955, the trade surplus exceeded $100 million; in 1956, it amounted to $22 million; while in 1957 there was an unfavorable balance of trade of almost $26 million. Ceylon's major exports have made it an important member of the sterling pool.

Exports of Agricultural Commodities

World prices of Ceylon's major exports, tea, rubber, and coconut products directly affect its national income in that agricultural exports play such an important role in the economy of the island.

In the period 1955-57 total exports decreased in value. The quantity of tea exported remained fairly stable during this period, but tea prices weakened. World rubber prices also fell, which partially explains the decrease in value of rubber exports. To an extent this was compensated for by the rubber-rice trade agreement with Communist China whereby Ceylon got higher-than-world-prices for its rubber. Coconut production was seriously affected by drought conditions in 1956 and 1957 resulting in a lowering of coconut product exports in those years.

The United Kingdom and other Commonwealth countries have been the traditional market for Ceylon's exports. In 1956, 56 percent of the exports went to the Commonwealth countries, principally to the United Kingdom, Australia, Canada, India, and the Union of South Africa. Communist China, the United States, West Germany, and Egypt are important non-sterling markets.

Ceylon's principal tea markets are the United Kingdom, the United States, Australia, the Union of South Africa, Iraq, Canada, and New Zealand. Communist China has been the principal rubber market since the rubber-rice trade agreement was signed in 1952. However, the United Kingdom, the United States, and West Germany are also important rubber markets.

Table 4.--Agricultural exports: Ceylon, 1955-57

	1955		1956		1957	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 metric tons	U.S. million dollars	1,000 metric tons	U.S. million dollars	1,000 metric tons	U.S. million dollars
Tea	164.3	250.8	157.9	219.2	166.8	214.5
Rubber	100.9	73.6	87.5	61.4	94.6	63.1
Coconut products:						
Oil	98.8	23.8	86.3	20.8	54.9	14.3
Copra	69.4	12.0	58.6	10.3	35.3	7.0
Desiccated coconut	58.8	11.5	64.8	13.6	49.7	11.5
Other	--	6.5	--	6.1	--	7.9
Total	--	53.8	--	50.8	--	40.7
Cinnamon quills	2.1	2.5	2.3	3.8	2.0	3.9
Cacao	2.5	2.2	2.9	1.9	2.7	1.9
Papain	.1	.4	.1	.5	.1	.8
Betelnuts (Arecanuts)	6.4	1.0	3.9	1.0	1.8	.3
Pepper	.3	.2	.3	.2	.3	.1
Cardamon	.2	.7	.1	.6	.2	.7
Citronella oil	.7	1.4	.6	1.1	.6	.9
Tobacco	.3	.3	.4	.3	.3	.2
Other	--	2.6	--	2.6	--	1.6
Total agricultural	--	389.5	--	343.4	--	328.7
Total all exports	--	407.4	--	364.3	--	353.1
Percent agricultural to total exports	--	95.6	--	94.3	--	93.1

Source: Ceylon customs returns.

Most of Ceylon's coconut oil exports go to Western Europe, Canada, and India. Almost all the copra exported goes to India, while the United Kingdom and West Germany buy most of the other coconut products, namely desiccated coconut, fresh coconuts, and coir fiber.

Imports of Agricultural Commodities

Ceylon has announced that one of its goals is to become more nearly self-sufficient in agricultural products, but this has not yet been attained. At present, 35 percent of total imports are agricultural.

Fifty percent of the annual rice requirements and all the wheat flour and sugar are imported under government monopoly each year. In 1955-57, this amounted to approximately 500,000 tons of rice, 200,000 tons of flour, and 150,000 tons of sugar. Communist China and Burma are the main rice sources, Australia supplies the bulk of wheat flour imported, and sugar is purchased from Cuba, Australia, Mauritius, and India. Australia and the Netherlands furnish most of the dairy imports. India is an important source of pulses, dried chillies, onions and garlic, various tropical fruits, and eggs. Potatoes are obtained principally from countries in Western Europe.

Table 5.--Agricultural imports: Ceylon, 1955-57

Commodity	1955		1956		1957	
	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 metric tons	U.S. million dollars	1,000 metric tons	U.S. million dollars	1,000 metric tons	U.S. million dollars
Rice	385.0	46.5	491.4	55.4	522.9	53.6
Wheat flour	218.7	18.1	185.2	14.8	194.8	18.1
Sugar	143.5	13.3	193.1	20.1	130.1	17.2
Dairy products	13.1	8.8	12.9	8.6	19.4	12.5
Pulses	68.2	6.3	60.6	7.4	54.4	8.3
Dried chillies	14.4	5.6	13.9	4.9	14.4	6.4
Potatoes	40.6	2.8	30.8	2.8	36.7	3.2
Onions	37.6	2.0	37.0	2.7	38.1	3.2
Fruits	11.1	2.1	10.0	1.9	8.0	2.0
Tobacco	.7	1.2	.6	1.1	1.0	1.5
Cotton	.5	.4	.7	.6	1.0	.8
Eggs	1.3	.7	1.2	.6	1.3	.7
Meat and meat products	.6	.5	.6	.5	.8	.7
Coffee	.6	.5	.8	.6	.6	.5
Other	--	6.6	--	7.5	--	7.6
Total agricultural	--	115.4	--	129.5	--	136.3
Total all imports	--	306.5	--	342.2	--	278.9
Percent agricultural to total imports	--	37.7	--	37.8	--	36.0

Source: Ceylon customs returns.

Tobacco and raw cotton are the most important non-food agricultural commodities imported. Although Ceylon produces and exports leaf tobacco to India, a type of unmanufactured tobacco used in making a hand-rolled cigarette, called beedies, is imported from India. In addition, high quality cigarette leaf is imported from the United States. British East Africa and Pakistan have been the normal suppliers of cotton, as domestic production has been below the country's needs. However, in 1956 and 1957 the United States exported cotton to Ceylon.

Trade with the United States

Although the United States purchases significant quantities of Ceylon's tea and rubber as well as certain of the minor export crops, it has only a very small share of the market for agricultural products in Ceylon. The principal U. S. agricultural commodities exported to Ceylon, in addition to the tobacco and cotton already referred to, are wheat flour and dairy and fruit products. Wheat flour was imported from the United States in 1957 through technical assistance and relief programs, and even greater amounts will probably be imported during 1958 and 1959 under recent PL 480 agreements.

Table 6.--Value of agricultural exports to the United States, 1955-57

Commodity	1955	1956	1957	Exports to U.S. as percent of total exports in 1957
	1,000 U.S. Dol.	1,000 U.S. Dol.	1,000 U.S. Dol.	Percent
Tea	23,263	21,429	21,576	10
Rubber	10,442	4,865	6,220	10
Cinnamon quills	540	966	694	18
Papain	350	404	590	74
Desiccated coconut	448	219	130	1
Pepper	194	141	111	89
Nutmeg	17	54	81	38
Cinnamon leaf and bark oil	67	76	77	44
Citronella oil	322	42	61	7
Cardamon	45	40	48	7
Coir fiber	51	28	34	(1/)
Cloves	--	2	8	4
Other agricultural	49	19	2	(1/)
Total agricultural	35,788	28,285	29,632	9.0
Total exports to U. S.	37,101	29,419	31,086	9.3

1/ Less than .5 percent.

Source: Ceylon customs returns.

Ceylon has had a favorable balance of trade with the United States for many years. In 1957, over 9 percent of Ceylon's export trade and under 4 percent of Ceylon's import trade was with the United States.

Table 7.--Value of agricultural imports from the United States, 1955-57

Commodity	1955	1956	1957	Imports from U.S. as percent of total imports in 1957
	1,000 U.S. Dol.	1,000 U.S. Dol.	1,000 U.S. Dol.	Percent
Dairy products	765	650	2,567	30
Wheat flour	(1/)	(1/)	2,366	13
Unmanufactured tobacco	908	844	967	66
Fresh apples & grapes	160	132	175	26
Cotton	(1/)	34	158	19
Other agricultural	75	14	93	0.07
Total agricultural	1.908	1,772	6,326	4.6
Total imports from U.S.	9,695	8,447	14,148	3.7

1/ Less than $500 U. S.

Source: Ceylon customs returns.

Government Policy for Trade

The Ceylon Government applies quantitative import restrictions to achieve a satisfactory balance of payments. As a member of the sterling area, Ceylon's import policy has tended to favor imports from sterling area countries over those from other areas.

The government also has a trade policy called "Ceylonization" aimed primarily at diverting the import trade to Ceylonese firms. Imports by non-Ceylonese firms are limited to their historic quotas or past trade, but Ceylonese firms are issued licenses liberally. Certain countries have recognized "Ceylonization" in their trade agreements and have appointed registered Ceylonese traders as their agents in Ceylon.

Exports are licensed mainly to control their quality. However, export taxes, which are an important source of government revenue, have been levied to finance export crop rehabilitation programs.

LONG RANGE OUTLOOK FOR AGRICULTURE

The net increase in Ceylon's labor force is presently estimated to equal or exceed 100,000 workers per year. With this rapidly growing labor force plus a mounting population, Ceylon must have an expanding economy to prevent a decline in living standards. And since Ceylon imports about half of the annual food requirements, domestic food production should increase by 5 to 6 percent per year if present expenditures for food imports are not to rise.

There appears to be little opportunity for increasing area planted to the three principal export crops - tea, rubber, and coconuts. But possibilities do exist for increasing yields and quality of production by replanting with improved varieties and by the adoption of improved cultural practices. The current programs designed to rehabilitate uneconomic rubber, coconut and tea areas, if successfully carried out, will have a significant effect on the output of these crops, both in terms of quantity and quality.

If the bulk of the estimated acreage available for development for irrigation in the Dry Zone can be brought into cultivation within 10 to 15 years, it could supply a large proportion of the present deficit in food production. The present rate of development, however, is not at a sufficiently high level to achieve this goal and much of any future gain in food production will be used by the increased population. While there are large areas which could be cultivated for food crops in the Dry Zone during the rainy season, experience has shown that risks are high in relation to expected returns.

The greatest potential for increasing domestic food production lies in increasing output on land already under cultivation. Ceylon's rice yields have averaged less than 40 percent of the yields reported in Japan. Yet with proper water control and improved cultural practices, much larger yields could be obtained; this has been done in the Polonnaruwa and Kegalle districts, where yields are 75 percent higher than the national average. And if some of the paddy lands that remain fallow each growing season were to be planted and if a greater percentage of the cultivated land were to be double-cropped, food production would be greatly increased.

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